RAW SEQUENCE LISTING PATENT APPLICATION US/09/509,595

DATE: 03/14/2001 TIME: 20:43:31

INPUT SET: S36511.raw

This Raw Listing contains the General Information Section and those Sequences containing ERRORS. Does Not Comply Corrected Diskette Needed FENERAL INFORMATION, SEQUENCE LISTING 3 General Information (i) APPLICANT: 7 more up - all responses must be on same line as

(ii) APPLICANT: 7 more up - all responses must be on same line as

(ii) APPLICANT: 7 more up - all responses must be on same line as 7 Wissenschaften e.V. 8 (B) STREET: none 9 (C) CITY: Berlin 10 (D) STATE: none (E) COUNTRY: Germany (F) POSTAL CODE (ZIP): none 13 14 (A) NAME: National Public Health Institute med wy 15 (B) STREET: Mannerheimintie 166 16 (C) CITY: Helsinki 17 (D) STATE: none 18 (E) COUNTRY: Finland --> 19 (F) POSTAL CODE (ZIP): 00300 cule encoding a loset

form with

Ectodermal these

mandatory

(a) CORRESPONDENCE ADDRESS: heading

(b) STREET:

(c) CITY:

(D) STATE:

(D) COUNTRY:
(F) 22TP:

The property of a U.S. 20 (ii) TITLE OF INVENTION: Novel nucleic acid molecule encoding a 21 22 (poly) peptide co-segregating in mutated form with 23 Autoimmune Polyendocrinopathy Candidiasis Ectodermal 24 Dystrophy (APECED) 25 26 (iii) NUMBER OF SEQUENCES: 32 27 28 (V) (iv) COMPUTER READABLE FORM: 29 (A) MEDIUM TYPE: Floppy disk 30 (B) COMPUTER: IBM PC compatible 31 (C) OPERATING SYSTEM: PC-DOS/MS-DOS (D) SOFTWARE: PatentIn Release #1.0, Version #1.30 ((EPO) 32 33 (M) CURRENT APPLICATION DATA:
(A) APPLICATION NUMBER:
(B) FILING DATE:
(C) CLASSIFICATION: mandetay headings Jor a U.S. case 34 FYI: Els format is invold for U.S. ERRORED SEQUENCES FOLLOW: 807 (2) INFORMATION FOR SEQ ID NO: 14: 808 (i) SEQUENCE CHARACTERISTICS: 809 (A) LENGTH: 550 amino acids --> 810 811 (B) TYPE: amino acid supp. 4, then 2

RAW SEQUENCE LISTING PATENT APPLICATION US/09/509,595

DATE: 03/14/2001 TIME: 20:43:31

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| 812 813 814 | | (| C) S D) T | TRAN OPOL | DEDN OGY: | ESS: | sin ear | gle | | | | | I | NPU1 | SET | : S3651 | 11.raw |
|-------------------|------------|-------------|--------------|--------------|--------------|------------|-------------|------------|-------------|------------|-------------|-------------|-------------|-------------|------------|-------------|-----------------|
| 815 816 | (ii |) MO | LECU | LE T | YPE: | pro | tein | | | | | | | (ix |) FE | :ATU | LRE; RMATION |
| 817 | (iii |) ну | POTH | ETIC | AL: | NO | | | | | | | \ \ | (n) 07 | HER | INFO | RMATION |
| 818 819 820 | (xi |) SE | QUEN | CE D | ESCR | IPTI | ON: | SEQ | ID N | 0: 1 | 4: | | —) (| <i>V</i>) | | | |
| 821 822 823 | Xaa 1 | a Xa | a Xa | a As | р Ха 5 | a Xa | a Le | u Ar | g Ar | g Le 10 | | u Ar | g Le | u Hi | s Ar 15 | g Thr | rr re Li |
| 824 825 826 | Glı | u Ile | e Ala | a Vai 20 | l Ala | a Xaa | a Ası | p Sei | r Ala 25 | a Ph | e Pr | o Le | ı Leı | u Hi: 30 | s Al | a Leu | fu |
| 827 828 829 | Ala | a Ası | 9 His | s Asp | o Vai | l Val | l Pro | Glu 40 | ı Ası | o Ly | s Pho | e Gli | 1 Glu 45 | ı Thi | r Lei | u Xaa | ° P. |
| 830 831 832 | Leı | 1 Lys 50 | Glı | ı Lys | s Glu | ı Gly | / Cys 55 | s Pro | Glr | n Ala | a Phe | ∋ His 60 | s Ala | a Let | ı Leı | ı Ser | |
| 833 834 835 | Trp 65 | Let | ı Leı | ı Thr | . Xaa | Asp 70 | Ser | : Xaa | a Ala | ı Ile | e Let 75 | ı Asp | Phe | e Trp | Arg | y Xaa 80 | |
| 836 837 838 | | | | | 85 | | | | | 90 | | | | | 95 | lle | |
| 839 840 841 | | | | 100 | | | | | 105 | | | | | 110 | | Gly | |
| 842 843 844 | | | 113 | | | | | 120 | | | | | 125 | | | Xaa | |
| 845 846 847 | | 130 | | | | | 135 | | | | | 140 | | | | Ala | |
| 848 849 850 | 143 | | | | | 150 | | | | | 155 | | | | | Xaa 160 | |
| 851 852 853 | | | | | 165 | | | | | 170 | | | | | 175 | | |
| 854 855 856 | Leu | Gly | Asn | Gly 180 | Ile | Gln | Thr | Met | Xaa 185 | Ala | Ser | Val | Gln | Arg 190 | Ala | Val | |
| 857 858 859 | Xaa | Xaa | Xaa 195 | Ser | Gly | Asp | Val | Pro 200 | Gly | Xaa | Arg | Gly | Ala 205 | Val | Glu | Gly | |
| 860 861 862 | | 210 | | | | Val | 215 | | | | | 220 | | | | | |
| 863 864 | Gln 225 | Val | Gly | Gly | Glu | Phe 230 | Tyr | Thr | Pro | Xaa | Lys 235 | Phe | Glu | Asp | Xaa | Ser 240 | |

RAW SEQUENCE LISTING PATENT APPLICATION US/09/509,595

DATE: 03/14/2001 TIME: 20:43:31

| 865 | | | | | | | | | | | | | | 1 | NPU: | T SE | r: s | 36511.raw |
|-----|------------|-------|-------------|------------------|------------|------------|-------|-------|-----------|--------------|---------|--------|------------|------------|----------|------------|------------|-----------|
| 866 | G1 | v Xa | aa Xa | aa To | 79 A | en La | A. | | | _ | | _ | | | | | | |
| 867 | | • | | , | 22 | ы пу 15 | ys A | Ld Al | rg s | er 2 | Xaa | Sei | c Xa | a Xa | a Ly | ys P | ro | Xaa |
| 868 | | | | | - | | | | | 2 | 250 | | | | | | 55 | |
| 869 | | | | | | | | | | | | | | | | | | |
| 870 | Va | l Ar | ror Al | la T.s | 79 Gl | 12 7 7 | | 77 . | | _ | _ | | | | | | | |
| 871 | - | | - y - 1. | 26 | .v G1 | y Al | la G1 | .n xa | aa X | aa X | (aa | Pro | Gl | y Xa | a Xa | a G | lu | Xaa |
| 872 | | | | 20 | 0 | | | | 2 | 55 | | | | | 27 | | | • |
| 873 | Ха | a Xa | a Gl | v (°1 | n 01 | · 17- | | | _ | | | | | | | | | |
| 874 | | a 210 | 27 | .y G1 | .II GI | n xa | ıa Xa | a Va | ıl Pı | ro X | aa | Xaa | Xaa | a Xa | a Le | u Pı | 0 | Ser |
| 875 | | | 2, | , | | | | 28 | 0 | | | | | 28 | 5 | | | |
| 876 | Xa. | a Dr | ~ ~1 | n V- | a 37- | | _ | | | | | | | | | | | |
| 877 | 214 | 29 | 0 61 | ш ла | a xa | a GI | n Ly | s As | n G] | lu A | sp | Glu | Cys | al 🛚 | a Va | 1 Cy | 'S | Xaa |
| 878 | | 23 | U | | | | 29 | 5 | | | | | 300 |) | | - 4 | _ | |
| 879 | 7 01 | - 41 | 01 | | _ | _ | | | | | | | | | | | | |
| 880 | 201 | b GT | y GI | y GI | u Le | u Il | e Cy | s Cy | s As | рG | ly | Cys | Pro | Ar | a Al | a Ph | e | His |
| 881 | 305 | • | | | | 31 | 0 | | | | | 315 | | | J | | | 320 |
| 882 | T | | _ | | | | | | | | | | | | | | | |
| 883 | тел | 1 AL | а Су | s Le | u Se: | r Pro | o Pro | o Lei | u Xa | a G | lu | Ile | Pro | Se | r (31- | v Ya | ۰ د | Trn |
| | | | | | 32 | 5 | | | | 3: | 30 | | | | - 01 | , na 33 | | rrp |
| 884 | _ | _ | | | | | | | | | | | | | | | - | |
| 885 | Arg | Cy | s Se | r Xaa | a Cys | s Lei | u Gli | ı Xaa | a Xa | a va | al | Gln | Xaa | X a a | Ya: | . v. | ٠, | |
| 886 | | | | 340 |) | | | | 34 | 5 | | | | nac | 350 | a Ad | a z | \aa |
| 887 | | | | | | | | | | | | | | | | | | |
| 888 | Xaa | Glı | ı Xaa | a Xaa | a Arg | Pro | Xaa | Glu | ı Xa | a Pr | · 0 | Xaa | G111 | Th. | . D. | . 7/ | | • - |
| 889 | | | 355 | 5 | | | | 360 |) | | | ···uu | Giu | | |) Xa | a 2 | aa |
| 890 | | | | | | | | | | | | | | 365 | | | | |
| 891 | Xaa | Gly | Let | ı Arg | Ser | Ala | Xaa | Glu | ı Xaa | a Ya | a 2 | N 2007 | ~1·· | Dane | 77 | | _ | .= |
| 892 | | 370 |) | | | | 375 | | | - 110 | ia z | 119 | 380 | PIC | xaa | Xaa | a G | Lu |
| 893 | | | | | | | | | | | | | | | | | | |
| 894 | Xaa | Xaa | Ala | Xaa | Xaa | Asp | Xaa | Xaa | Xaa | . Ya | э п | Pt 230 | Voo | 32 | | | | _ |
| 895 | 385 | | | | | 390 | | | - 1140 | . Ma | .a | . A. | Add | хаа | ьeu | Xaa | | |
| 896 | | | | | | | | | | | | 95 | | | | | | 00 |
| 897 | Pro | Xaa | Xaa | Ala | Ala | Pro | Leu | Xaa | Yaa | T.o | ,, v | · | 3 7 | a - | | _ | | |
| 898 | | | | | 405 | | | | nac | . <u>П</u> Е | u A | aa | лаа | ser | Ala | | | aa |
| 899 | | | | | | | | | | 41 | U | | | | | 415 | | |
| 900 | Pro | Leu | Leu | Xaa | Xaa | Glv | Xaa | GI. | C1. | | _ 7/ | | | | | | | |
| 901 | | | | 420 | | 1 | nua | GIU | 425 | Add | a X | .aa . | xaa | Xaa | | Pro | X | aa |
| 902 | | | | | | | | | 425 | | | | | | 430 | | | |
| 903 | Ala | Arq | Cvs | Xaa | Val | Cvc | Gly | λan | 01 | mb. | | _ | | _ | | | | |
| 904 | Ala | | 435 | | • | Cys | GIY | ASD | GIY | Tn | r x | aa v | Val | Leu | Arg | Cys | X | aa |
| 905 | | | | | | | | 440 | | | | | | 445 | | | | |
| 906 | His | Cvs | Ala | Δla | د 1 ۵ | Dho | uio | · | 3 | _ | | | _ | | | | | |
| 907 | His | 450 | | | ALA | FIIE | UTS | rrp | Arg | Cys | 5 H | ıs I | Phe | Pro | Xaa | Xaa | Χá | ıa |
| 908 | | • | | | | | 455 | | | | | 4 | 160 | | | | | |
| 909 | Xaa | Ara | Pro | Gl ₁₂ | Thr | Vaa | T | _ | _ | | | | | | | | | |
| 910 | Xaa 465 | 9 | | GIY | TIII | Add | ьeu | Arg | Cys | Xaa | Se | er C | ys : | Ser | Xaa | Asp | Xa | a |
| 911 | | | | | | 470 | | | | | 47 | 75 | | | | _ | 48 | |
| 912 | Thr | Pro | Χaa | Dro | V | V | •- | | | | | | | | | | | |
| 913 | Thr | | naa | FIO | Add 405 | лаа | xaa | GТУ | Xaa | Xaa | Xa | aa P | ro 1 | Kaa | Ser | Xaa | Xa | a |
| 914 | | | | | 485 | • | | | | 490 | 1 | | | | | 495 | | |
| 915 | Ara | Ya a | λ 1~ | Dw- | ~1 · | ** - | | _ | | | | | | | | | | |
| 916 | Arg : | -aa | чта | EUV ETO | сту. | лаа | Ala | Lys | Xaa | Xaa | As | p A | sp } | (aa . | Ala | Ser | Нi | s |
| 917 | | | | 500 | | | | | 505 | | | | | | 510 | | _ | |
| | | | | | | | | | | | | | | | | | | |

| PAGE: | 4 | | | R P | AW ATE | SEQ NT A | UEN APPL | ICE I | LIST TION | ING U | S/09/ | 509, | 595 | | | | DATE: 03/14 TIME: 20:43 | |
|-------|-------------------|----------|-----|--------|-----------|-------------|-------------|-------|--------------|----------|-------|------|-----|-----|-------|--------|----------------------------|-----|
| | | | | | | | | | | | | | | IN | PUT S | SET: S | S36511.raw | |
| | 918 | Xaa | Pro | Xaa | Leu | His | Arg | Asp | Asp | Leu | Glu | Ser | Leu | Leu | Xaa | Glu | His | |
| | 919 | | | 515 | | | | | 520 | | | | | 525 | | | | |
| | 920 | | | | | | | | | | | | | | | | | |
| | 921 | Xaa | Phe | Asp | Gly | Ile | Leu | Gln | Trp | Ala | Ile | Gln | Ser | Met | Xaa | Arq | Pro | |
| | 922 | | 530 | | _ | | | 535 | _ | | | | 540 | | | , | | |
| | 923 | | | | | | | | | | | | | | | | | |
| | 924 | Xaa | Ala | Xaa | Xaa | Pro | Xaa | | | | | | | | | | | |
| | 925 | 545 | | | | | 550 | | | | | | | | | | | |
| | 926 | | | | | | | | _ | Λ | | | | | | | | |
| > | 927 928 | Xaa deno | tes | any | amino | o ac | id | > ^ | 1. | his | go | rez. | en | (IX |) F. | EAT | URE: sec | ten |

(see p. 2)

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SEQUENCE VERIFICATION REPORT PATENT APPLICATION US/09/509,595

DATE: 03/14/2001 TIME: 20:43:32

INPUT SET: S36511.raw

| Line | Error | Original Text |
|------|--|---|
| 5 | Mandatory Value Not Present | (i) APPLICANT: |
| 6 | Unknown or Misplaced Identifier | (A) NAME: Max-Planck-Gesellschaft zur F'rderung der |
| 8 | Unknown or Misplaced Identifier | (B) STREET: none |
| 9 | Unknown or Misplaced Identifier | (C) CITY: Berlin |
| 10 | Unknown or Misplaced Identifier | (D) STATE: none |
| 11 | Unknown or Misplaced Identifier | (E) COUNTRY: Germany |
| 12 | Unknown or Misplaced Identifier | (F) POSTAL CODE (ZIP): none |
| 14 | Unknown or Misplaced Identifier | (A) NAME: National Public Health Institute |
| 15 | Unknown or Misplaced Identifier | (B) STREET: Mannerheimintie 166 |
| 16 | Unknown or Misplaced Identifier | (C) CITY: Helsinki |
| 17 | Unknown or Misplaced Identifier | (D) STATE: none |
| 18 | Unknown or Misplaced Identifier | (E) COUNTRY: Finland |
| 19 | Unknown or Misplaced Identifier | (F) POSTAL CODE (ZIP): 00300 |
| 810 | Entered (550) and Calc. Seq. Length (551) differ | (A) LENGTH: 550 amino acids |
| 927 | Wrong Amino Acid Designator | Xaa denotes any amino acid |
| 927 | Wrong Amino Acid Designator | Xaa denotes any amino acid |
| 927 | Wrong Amino Acid Designator | Xaa denotes any amino acid |
| 927 | Wrong Amino Acid Designator | Xaa denotes any amino acid |

SEQUENCE MISSING ITEM REPORT PATENT APPLICATION US/09/509,595

DATE: 03/14/2001 TIME: 20:43:32

INPUT SET: S36511.raw

ADDRESSEE
STREET
CITY
STATE
COUNTRY
ZIP
CORRESPONDENCE ADDRESS
APPLICATION NUMBER
FILING DATE
CLASSIFICATION
CURRENT APPLICATION DATA
APPLICATION NUMBER
FILING DATE
FILING DATE
PRIOR APPLICATION DATA